

**PHOTOACOUSTIC SPECTROSCOPY SAMPLE ARRAY VESSEL  
AND PHOTOACOUSTIC SPECTROSCOPY METHOD FOR USING THE SAME**

**Abstract of the Invention**

5       Methods and apparatus for analysis of multiple samples by photoacoustic spectroscopy are disclosed. Particularly, a photoacoustic spectroscopy sample array vessel including a vessel body having multiple sample cells connected thereto is disclosed. At least one acoustic detector is acoustically coupled with the vessel body. Methods for analyzing the multiple samples in the sample array vessels using photoacoustic spectroscopy are  
10   provided.